

5 <110> BASF Aktiengesellschaft

10 <120> Clp-protease as target for herbicides

<130> 20030949

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20 <170> PatentIn version 3.1

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Phe Phe Leu Gly Gln Glu Val Asp Thr Glu Ile Ser Asn Gln Leu Ile	
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5 Gly Leu Ala Ala Ser Ile Ala Ser Phe Ile Leu Val Gly Gly Ala Ile
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10 Thr Lys Arg Ile Ala Phe Pro His Ala Arg Val Met Ile His Gln Pro
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	Glu Ser Gly Thr Arg Asp Ser Lys Pro Thr Arg Val Arg Val Ser Met	
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45 Lys Leu Ile Ser Pro Pro Leu Arg Thr Thr Ser Pro Ser Pro Leu Arg
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Phe Ala Asn Ala Ser Ile Glu Met Ser Gln Thr Gln Glu Ser Ala Ile
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50 Arg Gly Ala Glu Ser Asp Val Met Gly Leu Leu Leu Arg Glu Arg Ile
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55 Val Phe Leu Gly Ser Ser Ile Asp Asp Phe Val Ala Asp Ala Ile Met
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60 Ser Gln Leu Leu Leu Leu Asp Ala Lys Asp Pro Lys Lys Asp Ile Lys
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Tyr Asp Val Val Gln Leu Val Arg Ala Asp Val Ser Thr Ile Ala Leu
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 Gly Ile Ala Ala Ser Thr Ala Ser Ile Ile Leu Gly Ala Gly Thr Lys
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 Gly Lys Arg Phe Ala Met Pro Asn Thr Arg Ile Met Ile His Gln Pro
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15	aat cct ata aga cgt ata gtt tct gct cta cag agt cca tat gga gat Asn Pro Ile Arg Arg Ile Val Ser Ala Leu Gln Ser Pro Tyr Gly Asp 35 40 45	204
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35	ctc tct tct gtg tta ttc cgt aac cgc ata atc ttc atc ggg caa cca Leu Ser Ser Val Leu Phe Arg Asn Arg Ile Ile Phe Ile Gly Gln Pro 100 105 110	396
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40 Ser Leu Lys Ala Gly Leu Ser Ser Asn Val Ser Gly Ser Pro Ile Lys
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45 Ile Asp Asn Lys Ala Pro Arg Phe Gly Val Ile Glu Ala Lys Lys Gly
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55 Leu Ser Ser Val Leu Phe Arg Asn Arg Ile Ile Phe Ile Gly Gln Pro
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Ile Asn Ala Gln Val Ala Gln Arg Val Ile Ser Gln Leu Val Thr Leu
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60 Ala Ser Ile Asp Asp Lys Ser Asp Ile Leu Met Tyr Leu Asn Cys Pro
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Gly Gly Ser Thr Tyr Ser Val Leu Thr Ile Tyr Asp Cys Met Ser Trp
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Ile Lys Pro Lys Val Gly Thr Val Ala Phe Gly Val Ala Ala Ser Gln
165 170 175

5 Gly Ala Phe Phe Leu Ala Gly Gly Glu Lys Gly Met Arg Tyr Ala Met
180 185 190

10 Pro Asn Thr Arg Val Met Ile His Gln Pro Gln Thr Gly Cys Gly Gly
195 200 205

15 His Val Glu Asp Val Arg Arg Gln Val Asn Glu Ala Ile Glu Ala Arg
210 215 220

Gln Lys Ile Asp Arg Met Tyr Ala Ala Phe Thr Gly Gln Pro Leu Glu
225 230 235 240

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Val Thr Glu Asn Arg Glu Leu Gly Ser Gly Lys Ser Thr Phe Ile Ser
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60 agt ccc aat ttc tcc ttt gca act tct gtt cac agt tgc agg cca aac 145
Ser Pro Asn Phe Ser Phe Ala Thr Ser Val His Ser Cys Arg Pro Asn
35 40 45

ggc gtt cga ggt tat tgt tac agg tct ccg gta gct aag tct ttg gac 193
Gly Val Arg Gly Tyr Cys Tyr Arg Ser Pro Val Ala Lys Ser Leu Asp
50 55 60

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	Asp	Asn	Tyr	Lys	Ser	Ala	Pro	Gln	Tyr	Leu	Tyr	Gly	Leu	Ser	Pro	Ser	
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15	cag	atg	gat	atg	ttc	atg	aca	gaa	gat	aac	cca	gta	cgg	cga	cag	tca	337
	Gln	Met	Asp	Met	Phe	Met	Thr	Glu	Asp	Asn	Pro	Val	Arg	Arg	Gln	Ser	
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	Glu	Ser	Ala	Thr	Glu	Asp	Ser	Ile	Ser	Ser	Ala	Asn	Asn	Tyr	Leu	Ser	
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25	aat	ggt	gga	atg	tgg	agt	atg	tcc	ggc	atg	aac	gat	cgg	ggc	ccc	tcg	433
	Asn	Gly	Gly	Met	Trp	Ser	Met	Ser	Gly	Met	Asn	Asp	Arg	Gly	Pro	Ser	
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30	aaa	tac	agt	atg	agt	gtc	agc	atg	tac	cgt	gga	gga	aca	aga	gga	tct	481
	Lys	Tyr	Ser	Met	Ser	Val	Ser	Met	Tyr	Arg	Gly	Gly	Thr	Arg	Gly	Ser	
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35	gga	aga	cct	cga	act	gcg	cct	cct	gat	ttg	cca	tct	ttg	ctt	ttg	gat	529
	Gly	Arg	Pro	Arg	Thr	Ala	Pro	Pro	Asp	Leu	Pro	Ser	Leu	Leu	Leu	Asp	
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	Ala	Arg	Ile	Val	Tyr	Leu	Gly	Met	Pro	Ile	Val	Pro	Ala	Val	Thr	Glu	
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	Leu	Leu	Val	Ala	Gln	Phe	Met	Trp	Leu	Asp	Tyr	Asp	Asn	Pro	Ser	Lys	
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	Pro	Ile	Tyr	Leu	Tyr	Ile	Asn	Ser	Ser	Gly	Thr	Gln	Asn	Glu	Lys	Met	
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	Glu	Thr	Val	Gly	Ser	Glu	Thr	Glu	Ala	Tyr	Ala	Ile	Ala	Asp	Thr	Met	
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60	gca	tac	tgc	aaa	tca	gat	atc	tat	aca	gtg	aac	tgt	ggc	atg	gca	tat	769
	Ala	Tyr	Cys	Lys	Ser	Asp	Ile	Tyr	Thr	Val	Asn	Cys	Gly	Met	Ala	Tyr	
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	Gly	Gln	Ala	Ala	Met	Leu	Leu	Ser	Leu	Gly	Lys	Lys	Gly	Phe	Arg	Ala	
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70	atg	cag	cca	aat	tca	tct	aca	aaa	ttg	tat	tta	cct	aaa	gtc	agc	aaa	865
	Met	Gln	Pro	Asn	Ser	Ser	Thr	Lys	Leu	Tyr	Leu	Pro	Lys	Val	Ser	Lys	
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	Ser	Ser	Gly	Ala	Val	Ile	Asp	Met	Trp	Ile	Arg	Ala	Lys	Glu	Leu	Asp	
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	Ala	Asn	Thr	Glu	Tyr	Tyr	Leu	Glu	Leu	Leu	Ala	Lys	Gly	Val	Gly	Lys	
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5 gca caa gaa gcc att gac tat ggc att gcg gac aag ata atc gat tca 1057
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10 aga gac aat gca ttt gag aaa agg aac tat ggt gag ata ctc gcc caa 1105
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 355 360 365

15 tct aga gct atg agg aaa gcc gga cca ggt gct cag gct gct cca tct 1153
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60 His Ile Pro Gln Lys Phe Arg Leu Glu Asn Leu Lys Asp Gly Leu Leu
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65	Ser	Ser	Gly	Ala	Val	Ile	Asp	Met	Trp	Ile	Arg	Ala	Lys	Glu	Leu	Asp	
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70	Ala	Asn	Thr	Glu	Tyr	Tyr	Leu	Glu	Leu	Leu	Ala	Lys	Gly	Val	Gly	Lys	
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5 Arg Asp Asn Ala Phe Glu Lys Arg Asn Tyr Gly Glu Ile Leu Ala Gln
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 Ala Ser Met Asn Ser Leu Leu Pro Arg Ser Ser Ser Phe Ser Pro His
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 Pro Pro Leu Ser Ser Asn Ser Ser Gly Arg Arg Asn Leu Lys Thr Phe
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50 cgt tac gcc ttt cgc gcc aaa gcc tct gcc aaa atc cct atg cct ccg 199
 Arg Tyr Ala Phe Arg Ala Lys Ala Ser Ala Lys Ile Pro Met Pro Pro
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 Ile Asn Pro Lys Asp Pro Phe Leu Ser Thr Leu Ala Ser Ile Ala Ala
 55 60 65 70

aat tct ccg gaa aag ctt ctc aat cgg ccg gtt aac gct gat gtg ccg 295
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60 cca tat ctt gac atc ttt gac tcc cct cag ctc atg tct tct cct gca 343
 Pro Tyr Leu Asp Ile Phe Asp Ser Pro Gln Leu Met Ser Ser Pro Ala
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	Pro Pro Asp Leu Pro Ser Met Leu Leu Asp Gly Arg Ile Val Tyr Ile	
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10	gga atg cct ctt gtg ccg gca gtg act gag cta gtt gtc gct gag cta	487
	Gly Met Pro Leu Val Pro Ala Val Thr Glu Leu Val Val Ala Glu Leu	
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	Met Tyr Leu Gln Trp Leu Asp Pro Lys Glu Pro Ile Tyr Ile Tyr Ile	
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	Ala Met Ile Gln Gln Pro Arg Val Pro Ser Ser Gly Leu Met Pro Ala	
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	265 270 275	
55	gct aac gta atg aga agg cca tat tac atg gat gca cca aaa gct aaa	919
	Ala Asn Val Met Arg Arg Pro Tyr Tyr Met Asp Ala Pro Lys Ala Lys	
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60	gaa ttt gga gtc att gac agg att ctt tgg cgc ggt caa gaa aag att	967
	Glu Phe Gly Val Ile Asp Arg Ile Leu Trp Arg Gly Gln Glu Lys Ile	
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65	att gcg gac gtg gtt cct tca gag gaa ttc gac aag aat gca ggg att	1015
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	Lys Ser Val Val	
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75	atggagaaga acaaatagac tgaccaaatt cacattggcc gcagactgcc ttgtttcaaa	1130
80	tcacttggtta aatgtgaaca tgcgattagg agaatcatatc ttaaaggatc ttgaaatatt	1190

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30 Lys Ile Pro Met Pro Pro Ile Asn Pro Lys Asp Pro Phe Leu Ser Thr
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40 Val Asn Ala Asp Val Pro Pro Tyr Leu Asp Ile Phe Asp Ser Pro Gln
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 100 105 110

50 His Arg Pro Arg Thr Pro Pro Pro Asp Leu Pro Ser Met Leu Leu Asp
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55 Gly Arg Ile Val Tyr Ile Gly Met Pro Leu Val Pro Ala Val Thr Glu
 130 135 140

60 Leu Val Val Ala Glu Leu Met Tyr Leu Gln Trp Leu Asp Pro Lys Glu
 145 150 155 160

Pro Ile Tyr Ile Tyr Ile Asn Ser Thr Gly Thr Thr Arg Asp Asp Gly
 165 170 175

Glu Thr Val Gly Met Glu Ser Glu Gly Phe Ala Ile Tyr Asp Ser Leu
 180 185 190

22

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